

Appendix B

Metric and Thermal Conversion Tables

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Metric Conversions

Table B1 presents Summary Statistics for Natural Gas in the United States for 2005 through 2009 in metric units of measure. Volumes are shown in cubic meters instead of cubic feet. Prices are shown in nominal dollars per thousand cubic meters instead of dollars per thousand cubic feet. The data in this table have been converted from the data that appear in Table 1 of this report.

Thermal Conversions

Table B2 presents the thermal (Btu) conversion factors and the converted data for natural gas supply and disposition from 2005 through 2009. A brief documentation for the thermal conversion factors follows:

- *Marketed Production.* The conversion factor is calculated by adding the total heat content of dry production to the total heat content of extraction loss and dividing the resulting sum by the total quantity of dry production and extraction loss (see below).
- *Extraction Loss.* The conversion factor is obtained from Appendix A of this publication.
- *Dry Production.* The conversion factor is assumed to be the same as the thermal conversion factors for consumption (see below).
- *Withdrawals from Storage.* Both underground and LNG storage withdrawals are assumed to have the same heat content as consumption (see below).
- *Supplemental Gas Supplies.* This conversion factor is assumed to be the same as that for consumption (see below).
- *Balancing Item.* This conversion factor is calculated by subtracting the total heat content of all other items of supply from the heat content of total disposition (from Table B2) and dividing the difference by the balancing item quantity.
- *Consumption.* The thermal conversion factor for total consumption (lease fuel, plant fuel, pipeline fuel, and deliveries to consumers) is the average heat content for deliveries to end users as reported on the Energy Information Administration's (EIA) Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." Average heat content of consumption in the Electric Power Sector is obtained from Form EIA-906, "Power Plant Report," prior to 2007, and from Form EIA-923, "Power Plant Operations Report," thereafter.
- *Additions to Storage.* Additions to both underground and LNG storage are assumed to have the same heat content as consumption (see above).

Table B1. Summary Statistics for Natural Gas in the United States, Metric Equivalents, 2005-2009

	2005	2006	2007	2008	2009
Number of Wells Producing at End of Year	425,887	440,516	452,945	^R 476,652	493,100
Production (million cubic meters)					
Gross Withdrawals					
From Gas Wells	494,748	509,577	483,238	^R 442,265	420,197
From Oil Wells	169,476	156,860	164,759	^R 162,742	164,611
From Coalbed Wells	NA	NA	50,400	^R 56,249	55,990
From Shale Wells	NA	NA	NA	64,682	95,811
Total	664,223	666,438	698,397	^R725,938	736,609
Repressuring	104,759	92,453	103,716	^R 103,034	99,734
Vented and Flared	3,372	3,666	4,062	^R 4,726	4,682
Nonhydrocarbon Gases Removed	20,136	20,698	18,722	^R 20,351	20,431
Marketed Production	535,956	549,621	571,897	^R 597,827	611,762
Extraction Loss	24,820	25,657	26,344	26,999	28,999
Total Dry Production	511,136	523,964	545,553	^R570,828	582,763
Supply (million cubic meters)					
Dry Production	511,136	523,964	545,553	^R 570,828	582,763
Receipts at U.S. Borders					
Imports	122,924	118,542	130,472	^R 112,817	106,227
Intransit Receipts	15,776	14,568	12,904	10,788	8,348
Withdrawals from Storage					
Underground Storage	86,553	70,590	94,154	95,551	83,993
LNG Storage	1,417	956	1,421	^R 1,285	1,169
Supplemental Gas Supplies	1,804	1,871	1,788	^R 1,724	1,845
Balancing Item	3,803	1,739	-5,748	^R 694	-3,294
Total Supply	743,413	732,229	780,543	^R793,687	781,050
Disposition (million cubic meters)					
Consumption	623,271	614,041	654,038	^R 658,878	646,733
Deliveries at U.S. Borders					
Exports	20,632	20,500	23,289	^R 27,277	30,366
Intransit Deliveries	13,002	13,786	13,081	^R 11,668	8,748
Additions to Storage					
Underground Storage	84,995	82,806	88,714	94,589	93,870
LNG Storage	1,513	1,096	1,421	^R 1,276	1,334
Total Disposition	743,413	732,229	780,543	^R793,687	781,050
Consumption (million cubic meters)					
Lease Fuel	21,417	22,172	24,383	^R 24,469	25,860
Pipeline and Distribution Use	16,538	16,543	17,595	18,348	16,940
Plant Fuel	10,058	10,165	10,345	10,069	10,251
Delivered to Consumers					
Residential	136,679	123,701	133,722	^R 138,534	135,311
Commercial	84,920	80,194	85,316	^R 89,270	88,316
Industrial	186,816	184,403	188,252	^R 188,625	174,635
Vehicle Fuel	648	672	698	^R 736	825
Electric Power	166,196	176,190	193,727	188,827	194,595
Total Delivered to Consumers	575,258	565,160	601,716	^R605,992	593,683
Total Consumption	623,271	614,041	654,038	^R658,878	646,733
Delivered for the Account of Others (million cubic meters)					
Residential	11,925	10,731	12,573	^R 13,930	14,707
Commercial	29,732	29,117	32,058	^R 34,013	36,067
Industrial	141,884	141,213	146,446	^R 150,051	141,837

See footnotes at end of table.

Table B1. Summary Statistics for Natural Gas in the United States, Metric Equivalents, 2005-2009 — Continued

	2005	2006	2007	2008	2009
Number of Consumers					
Residential	63,616,827	64,166,280	64,964,769	^R 65,073,996	65,316,682
Commercial	5,198,028	5,273,379	5,308,785	^R 5,444,335	5,321,150
Industrial	206,223	193,830	198,288	^R 225,043	207,443
Average Annual Consumption per Consumer (thousand cubic meters)					
Commercial	16	15	16	^R 16	17
Industrial	906	951	949	^R 838	842
Average Price for Natural Gas (dollars per thousand cubic meters)					
Wellhead (Marketed Production)	258.88	225.75	220.61	^R 281.59	129.44
Imports	286.87	242.93	242.62	^R 307.15	147.92
Exports	268.15	241.18	244.21	^R 303.18	157.71
Citygate	306.12	303.93	288.12	324.29	228.23
Delivered to Consumers					
Residential	448.45	485.01	462.08	^R 490.54	428.78
Commercial	400.55	423.70	400.54	^R 431.82	355.33
Industrial	302.34	278.06	271.17	^R 340.76	188.13
Vehicle Fuel	322.80	308.05	300.34	^R 415.05	287.00
Electric Power	299.18	251.09	258.15	327.01	174.10

^R Revised data.

^{NA} Not available.

Notes: The United States equals the 50 States and District of Columbia. Totals may not add due to independent rounding. Prices are in nominal dollars.

Sources: Energy Information Administration (EIA), Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"; Form EIA-895, "Annual Quantity and Value of Natural Gas Production Report"; Form EIA-914, "Monthly Natural Gas Production Report"; Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"; Form EIA-910, "Monthly Natural Gas Marketer Survey"; Form EIA-816, "Monthly Natural Gas Liquids Report"; Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids

Production"; FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants"; Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report"; Form EIA-191M, "Monthly Underground Gas Storage Report"; Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*; the Bureau of Ocean Energy Management, Regulation and Enforcement, and predecessor agencies; Form EIA-906, "Power Plant Report"; Form EIA-920, "Combined Heat and Power Plant Report"; Form EIA-923, "Power Plant Operations Report"; Form EIA-886, "Annual Survey of Alternative Fueled Vehicles"; State agencies; Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves"; HPDI; and EIA estimates based on historical data.

Table B2. Thermal Conversion Factors and Data, 2005-2009

	2005	2006	2007	2008	2009
Conversion Factor (Btu per cubic foot)					
Production					
Marketed.....	1,104	1,103	1,104	1,100	1,101
Extraction Loss	2,660	2,639	2,648	2,643	2,627
Total Dry Production.....	1,028	1,028	1,029	1,027	1,025
Supply					
Dry Production	1,028	1,028	1,029	1,027	1,025
Receipts at U.S. Borders					
Imports.....	1,025	1,025	1,025	1,025	1,025
Intransit Receipts	1,025	1,025	1,025	1,025	1,025
Withdrawals from Storage					
Underground Storage.....	1,028	1,028	1,029	1,027	1,025
LNG Storage	1,028	1,028	1,029	1,027	1,025
Supplemental Gas Supplies	1,028	1,028	1,029	1,027	1,025
Balancing Item	1,044	883	1,056	^R 373	1,134
Total Supply	NA	NA	NA	NA	NA
Disposition					
Consumption.....	1,028	1,028	1,029	1,027	1,025
(Electric Power).....	1,028	1,028	1,027	1,027	1,025
(Other Sectors)	1,028	1,028	1,030	1,027	1,025
Deliveries at U.S. Borders					
Exports.....	1,009	1,009	1,009	1,009	1,009
Intransit Deliveries	1,009	1,009	1,009	1,009	1,009
Additions to Storage					
Underground Storage.....	1,028	1,028	1,029	1,027	1,025
LNG Storage	1,028	1,028	1,029	1,027	1,025
Total Disposition.....	NA	NA	NA	NA	NA
Summary Data (billion Btu)					
Production					
Marketed.....	20,887,233	21,412,487	22,288,634	^R 23,223,155	23,784,662
Extraction Loss	2,331,218	2,390,781	2,463,893	2,520,271	2,690,084
Total Dry Production.....	18,556,015	19,021,706	19,824,741	^R20,702,884	21,094,578
Supply					
Dry Production	18,556,015	19,021,706	19,824,741	^R 20,702,884	21,094,578
Receipts at U.S. Borders					
Imports.....	4,439,534	4,290,938	4,722,771	^R 4,083,704	3,845,144
Intransit Receipts	571,044	527,315	467,082	390,511	302,160
Withdrawals from Storage					
Underground Storage.....	3,142,183	2,562,662	3,421,438	3,465,445	3,040,335
LNG Storage	51,440	34,693	51,621	^R 46,587	42,331
Supplemental Gas Supplies	65,474	67,907	64,963	^R 62,533	66,789
Balancing Item	140,206	54,220	-214,297	^R 9,157	-141,353
Total Supply	26,965,895	26,559,441	28,338,319	^R28,760,820	28,249,983
Disposition					
Consumption.....	22,626,893	22,291,811	23,766,957	^R 23,896,294	23,410,137
(Electric Power).....	6,035,829	6,393,830	7,028,179	^R 6,849,092	7,043,163
(Other Sectors)	16,591,064	15,897,981	16,738,778	^R 17,047,202	16,366,974
Deliveries at U.S. Borders					
Exports.....	735,158	730,474	829,856	^R 971,932	1,082,008
Intransit Deliveries	463,278	491,239	466,096	^R 415,763	311,699
Additions to Storage					
Underground Storage.....	3,085,626	3,006,128	3,223,775	3,430,555	3,397,865
LNG Storage	54,940	39,790	51,635	^R 46,277	48,273
Total Disposition.....	26,965,895	26,559,441	28,338,319	^R28,760,820	28,249,983

^R Revised data.

NA Not available.

Notes: See accompanying text for conversion factor documentation. Items appearing in parentheses are subsets of other items for which data are shown in this table and are not involved in the summing of supply and disposition. Totals may not equal sum of components due to independent rounding.

Sources: Energy Information Administration (EIA), Form EIA-895, "Annual Quantity and Value of Natural Gas Production Report"; Form EIA-914, "Monthly Natural Gas Production Report"; Form EIA-176, "Annual Report of Natural and

Supplemental Gas Supply and Disposition"; Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production"; Office of Fossil Energy, U.S. Department of Energy, Natural Gas Imports and Exports; Form EIA-191M, "Monthly Underground Gas Storage Report"; Form EIA-906, "Power Plant Report"; Form EIA-920, "Combined Heat and Power Plant Report"; Form EIA-923, "Power Plant Operations Report"; Form EIA-886, "Annual Survey of Alternative Fueled Vehicles"; State agencies; Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves"; HPDI; and EIA estimates based on historical data.